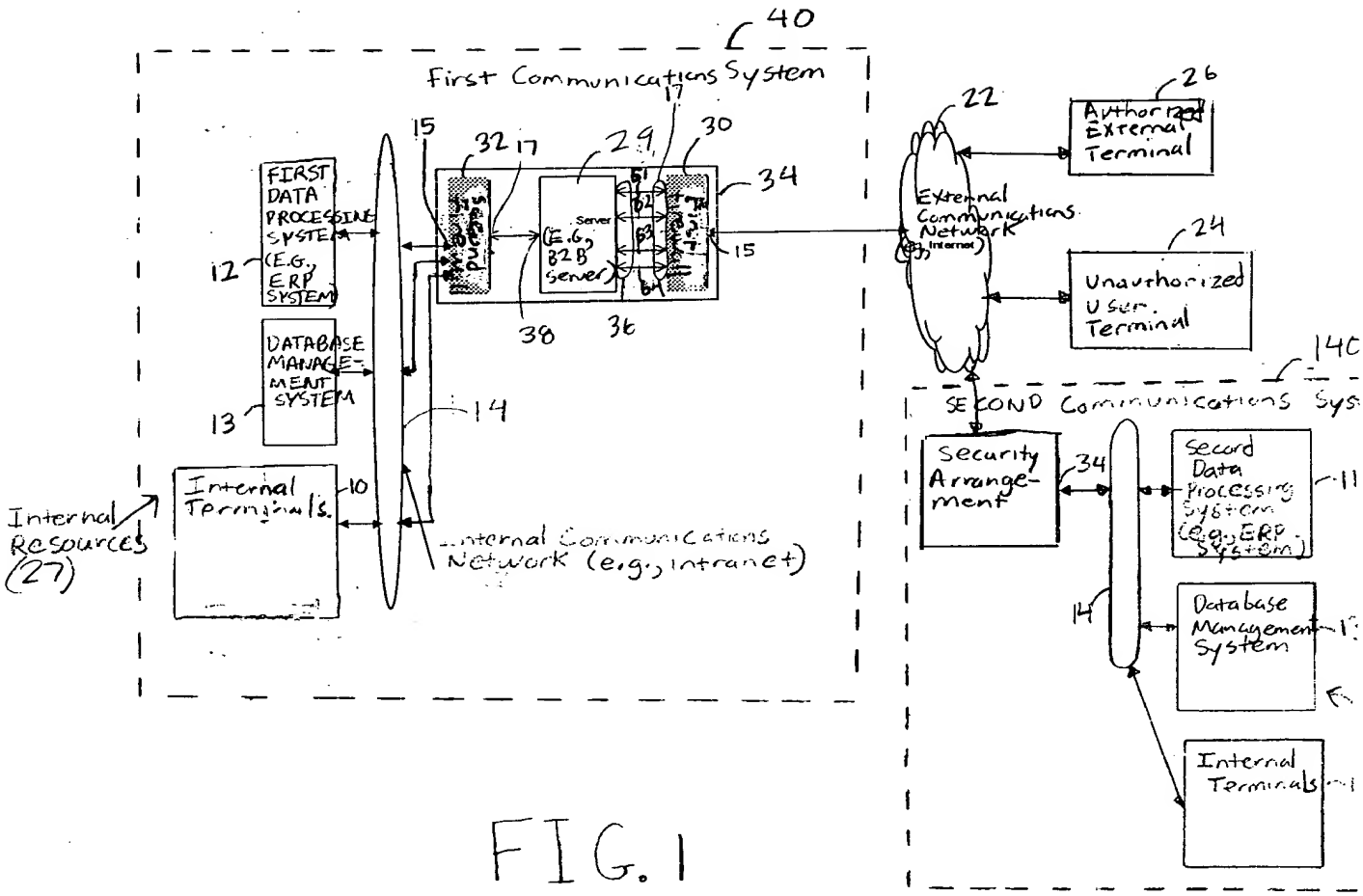

40
First Communications System
FIRST DATA PROCESSING SYSTEM (E.G., ERP SYSTEM)
12
DATABASE MANAGEMENT SYSTEM
13
Internal Terminals
10
Internal Resources (27)
15
32
17
29
30
34
Server (E.G., J2EE Server)
38
36
14
Internal Communications Network (e.g., Intranet)
22
External Communications Network (e.g., Internet)
26
Authorized External Terminal
24
Unauthorized User Terminal
14C
SECOND Communications Sys
Security Arrangement
34
Second Data Processing System (e.g., ERP System)
11
14
Database Management System
Internal Terminals

FIG. 1

FIG. 2

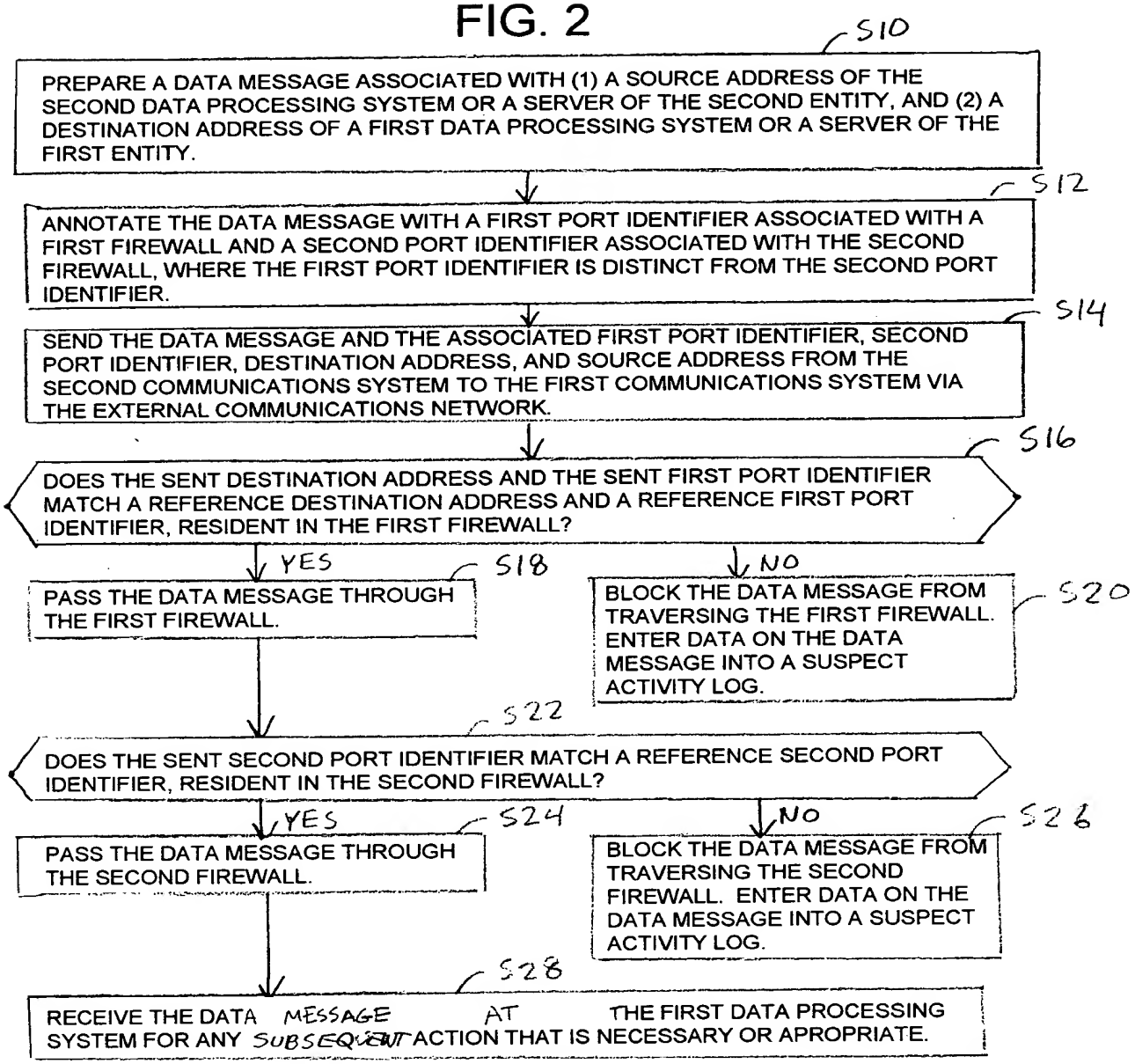
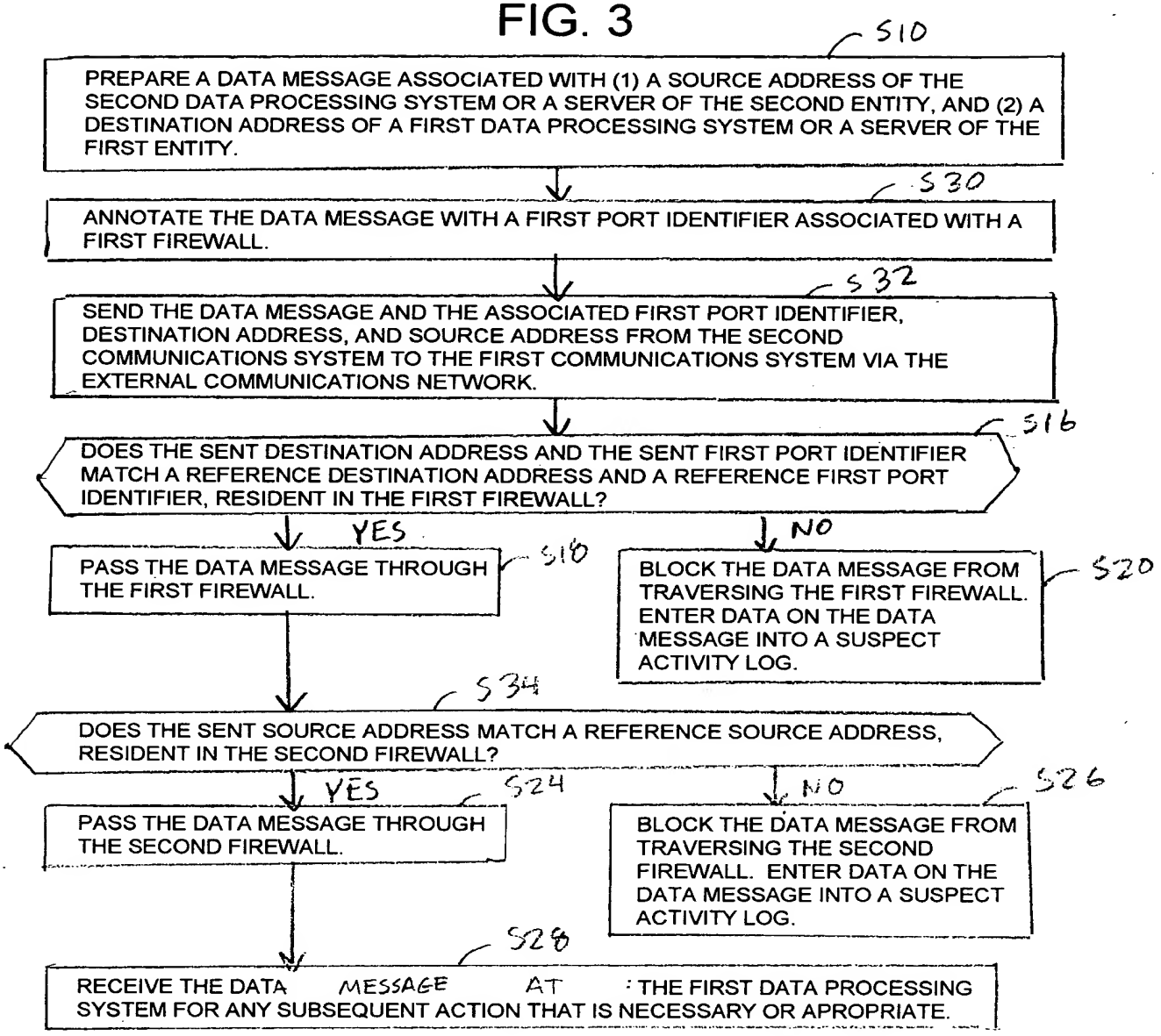

S10
PREPARE A DATA MESSAGE ASSOCIATED WITH (1) A SOURCE ADDRESS OF THE SECOND DATA PROCESSING SYSTEM OR A SERVER OF THE SECOND ENTITY, AND (2) A DESTINATION ADDRESS OF A FIRST DATA PROCESSING SYSTEM OR A SERVER OF THE FIRST ENTITY.
S12
ANNOTATE THE DATA MESSAGE WITH A FIRST PORT IDENTIFIER ASSOCIATED WITH A FIRST FIREWALL AND A SECOND PORT IDENTIFIER ASSOCIATED WITH THE SECOND FIREWALL, WHERE THE FIRST PORT IDENTIFIER IS DISTINCT FROM THE SECOND PORT IDENTIFIER.
S14
SEND THE DATA MESSAGE AND THE ASSOCIATED FIRST PORT IDENTIFIER, SECOND PORT IDENTIFIER, DESTINATION ADDRESS, AND SOURCE ADDRESS FROM THE SECOND COMMUNICATIONS SYSTEM TO THE FIRST COMMUNICATIONS SYSTEM VIA THE EXTERNAL COMMUNICATIONS NETWORK.
S16
DOES THE SENT DESTINATION ADDRESS AND THE SENT FIRST PORT IDENTIFIER MATCH A REFERENCE DESTINATION ADDRESS AND A REFERENCE FIRST PORT IDENTIFIER, RESIDENT IN THE FIRST FIREWALL?
YES
S18
PASS THE DATA MESSAGE THROUGH THE FIRST FIREWALL.
NO
S20
BLOCK THE DATA MESSAGE FROM TRAVERSING THE FIRST FIREWALL. ENTER DATA ON THE DATA MESSAGE INTO A SUSPECT ACTIVITY LOG.
S22
DOES THE SENT SECOND PORT IDENTIFIER MATCH A REFERENCE SECOND PORT IDENTIFIER, RESIDENT IN THE SECOND FIREWALL?
YES
S24
PASS THE DATA MESSAGE THROUGH THE SECOND FIREWALL.
NO
S26
BLOCK THE DATA MESSAGE FROM TRAVERSING THE SECOND FIREWALL. ENTER DATA ON THE DATA MESSAGE INTO A SUSPECT ACTIVITY LOG.
S28
RECEIVE THE DATA MESSAGE AT THE FIRST DATA PROCESSING SYSTEM FOR ANY SUBSEQUENT ACTION THAT IS NECESSARY OR APROPRIATE.

FIG. 3


S10
PREPARE A DATA MESSAGE ASSOCIATED WITH (1) A SOURCE ADDRESS OF THE SECOND DATA PROCESSING SYSTEM OR A SERVER OF THE SECOND ENTITY, AND (2) A DESTINATION ADDRESS OF A FIRST DATA PROCESSING SYSTEM OR A SERVER OF THE FIRST ENTITY.
S30
ANNOTATE THE DATA MESSAGE WITH A FIRST PORT IDENTIFIER ASSOCIATED WITH A FIRST FIREWALL.
S32
SEND THE DATA MESSAGE AND THE ASSOCIATED FIRST PORT IDENTIFIER, DESTINATION ADDRESS, AND SOURCE ADDRESS FROM THE SECOND COMMUNICATIONS SYSTEM TO THE FIRST COMMUNICATIONS SYSTEM VIA THE EXTERNAL COMMUNICATIONS NETWORK.
S16
DOES THE SENT DESTINATION ADDRESS AND THE SENT FIRST PORT IDENTIFIER MATCH A REFERENCE DESTINATION ADDRESS AND A REFERENCE FIRST PORT IDENTIFIER, RESIDENT IN THE FIRST FIREWALL?
YES
NO
PASS THE DATA MESSAGE THROUGH THE FIRST FIREWALL.
S18
BLOCK THE DATA MESSAGE FROM TRAVERSING THE FIRST FIREWALL. ENTER DATA ON THE DATA MESSAGE INTO A SUSPECT ACTIVITY LOG.
S20
S34
DOES THE SENT SOURCE ADDRESS MATCH A REFERENCE SOURCE ADDRESS, RESIDENT IN THE SECOND FIREWALL?
YES
S24
NO
S26
PASS THE DATA MESSAGE THROUGH THE SECOND FIREWALL.
BLOCK THE DATA MESSAGE FROM TRAVERSING THE SECOND FIREWALL. ENTER DATA ON THE DATA MESSAGE INTO A SUSPECT ACTIVITY LOG.
S28
RECEIVE THE DATA MESSAGE AT THE FIRST DATA PROCESSING SYSTEM FOR ANY SUBSEQUENT ACTION THAT IS NECESSARY OR APROPRIATE.

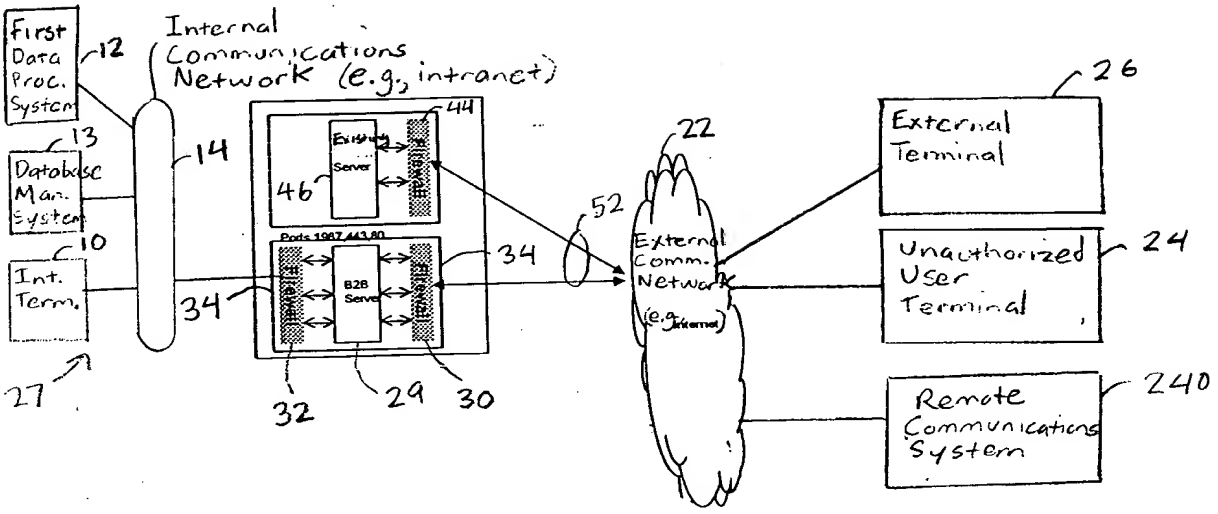

First Data Proc. System
12
Internal Communications Network (e.g., intranet)
13
Database Man. System
14
10
Int. Term.
27
34
34
44
Security Server
46
Ports 1967, 443, 80
B2B Server
32
29
30
52
22
External Comm. Network
(e.g. Internet)
26
External Terminal
Unauthorized User Terminal
24
Remote Communications System
240

FIG. 4

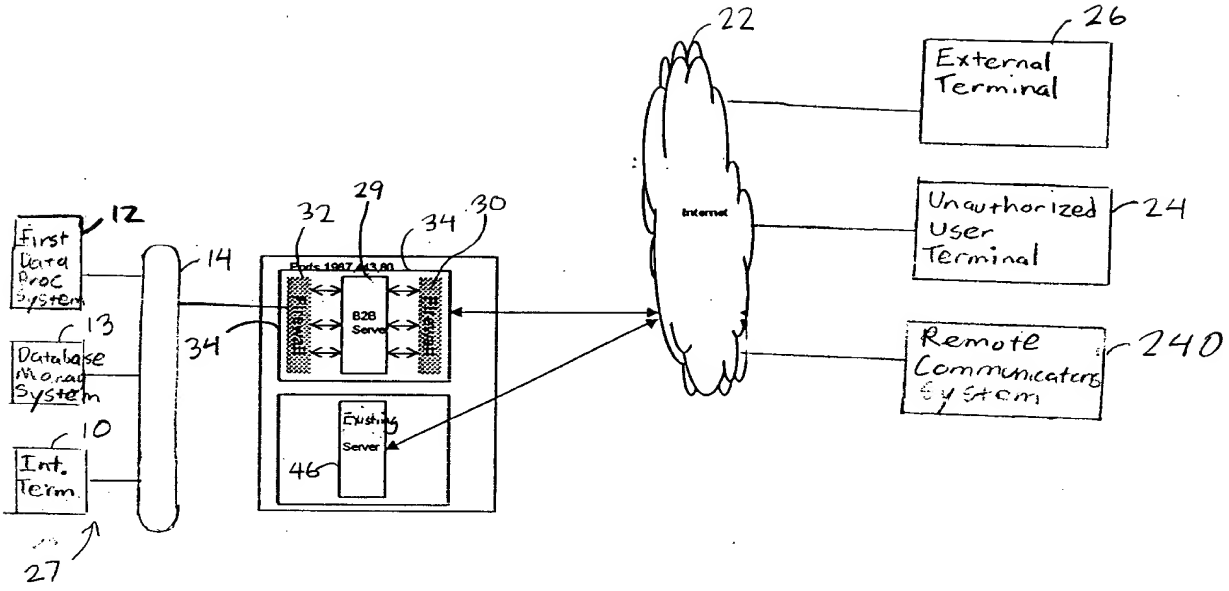

22
26
External Terminal
Internet
Unauthorized User Terminal
24
Remote Communicaters System
240
First Data Proc System
12
Database Mgmt System
13
Int. Term.
10
27
14
34
32
29
34
30
B2B Server
Existing Server
46

FIG. 5

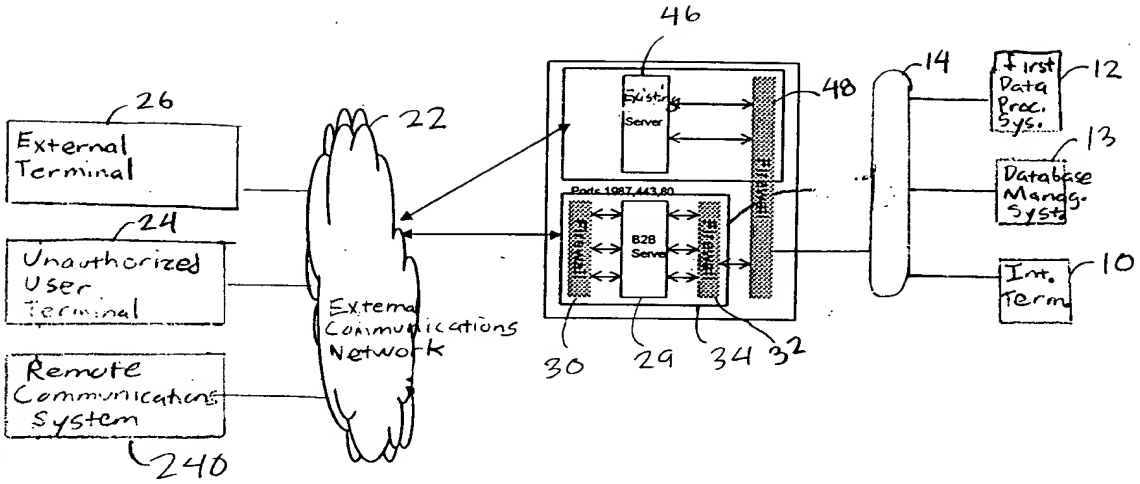

46
26
External Terminal
22
48
14
First Data Proc. Sys.
12
24
Unauthorized User Terminal
Existing Server
13
Database Manag. Syst.
B2B Server
External Communications Network
Int. Term.
10
Remote Communications System
240
30
29
34
32

FIG. 6

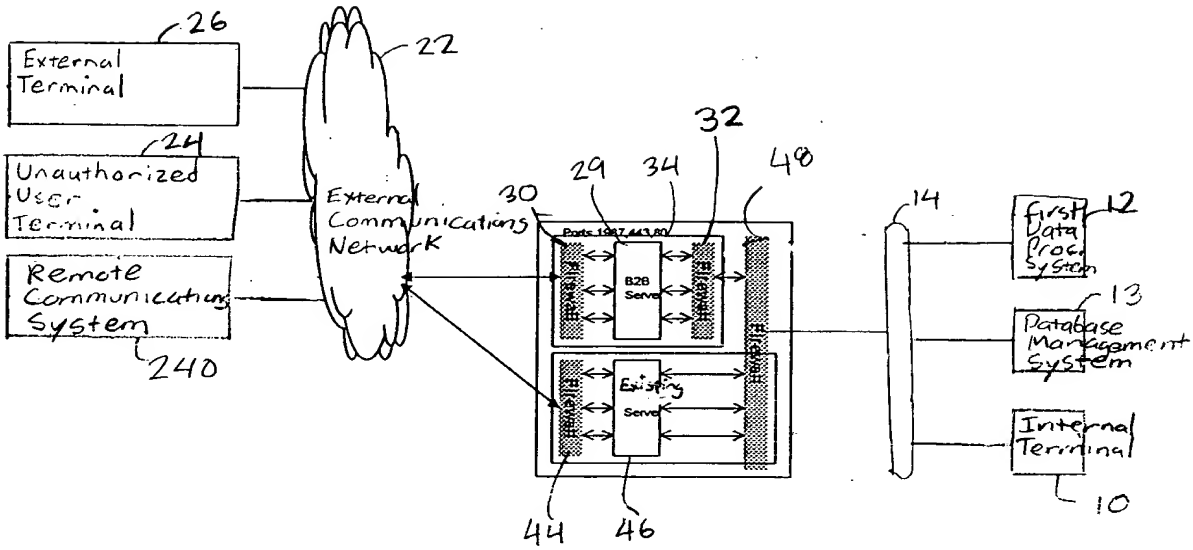

26
External Terminal
24
Unauthorized User Terminal
Remote Communications System
240
22
External Communications Network
30
29
34
32
48
B2B Server
Existing Server
44
46
14
first Data Proc. System
12
13
Database Management System
Internal Terminal
10

FIG. 7